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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,414	02/27/2002	Scott Phillip Neale Taylor	CU-2825 RJS	1158

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EXAMINER

JULES, FRANTZ F

ART UNIT	PAPER NUMBER
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3617

DATE MAILED: 03/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n No.

10/049,414

Applicant(s)

TAYLOR, SCOTT PHILLIP NEALE

Examiner

Frantz F. Jules

Art Unit

3617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 14-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-29 is/are rejected.
- 7) ☒ Claim(s) 30-48 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Objections*

1. Claims 14-48 are objected to because of the following informalities:

In claim 14, line 2, the phrase "a guideway centerline" should be changed to --the centerline of the guideway--.

In claim 16, line 3, the word "is" should be replaced by --its--.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 14-23, 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chollet et al (US 4,982,671) in view of Bishop (US 5,730,064).

Claims 14-23, 27-29

Chollet et al disclose in figs. 1-9 a vehicle with at least one steerable wheelset (1) adapted to run on a guideway having two primary running faces (not shown as this is inherent of a track system of a rail vehicle) laterally offset about the centerline of the guideway, the wheelset comprising a pair of wheels (3, 4), each wheel located on opposite sides of the wheelset (1) adapted to engage with a respective one of the two primary running faces constituted by tracks of a rail system, the vehicle comprising sensing means (14, 15, 20) for sensing lateral displacement of the wheelset (1) with

Art Unit: 3617

respect to a longitudinally disposed reference path or the track, the sensing means (14, 15, 20) producing a signal for a control system operably connected to an actuating means (21) to steer the wheels in response to the sensed lateral displacement.

The sensing means comprises at least one sensor (14, 15) located either ahead or behind the wheelset, or laterally offset with the wheelset, in accordance with claims 18-17-20.

The longitudinally disposed reference path constituted by the track (not shown) is substantially parallel to, but laterally offset from the centerline of the guideway as required by claims 27-29.

The sensing means comprises at least two sensors (14, 15), one of which (14) is located ahead of the wheelset and the other (15) is located behind the wheelset.

Chollet et al discloses all of the features as listed above but does not disclose a vehicle having axes of rotation of the wheels and primary running faces being inclined downwardly toward the centerline of the guideway so that the horizontal forces acting on the wheelset substantially transversed to the guideway centerline are substantially resisted by the sum of horizontal vectors of the perpendicular component and in which a line intersecting a first plane perpendicular to the axis of the wheels on one side and a second plane perpendicular to the other wheels intersects above and between the wheels passing through the center of gravity of the vehicle. Bishop discloses in figs. 5-9 a vehicle having axes of rotation of the wheels and primary running faces (53, 54) being inclined downwardly toward the centerline of the guideway so that the horizontal forces acting on the wheelset substantially transversed to the guideway centerline are

Art Unit: 3617

substantially resisted by the sum of horizontal vectors of the perpendicular component and in which a line intersecting a first plane perpendicular to the axis of the wheels on one side and a second plane perpendicular to the other wheels intersects above and between the wheels passing through the center of gravity of the vehicle. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Chollett et al to include the use axes of rotation of the wheels and primary running faces being inclined downwardly toward the centerline of the guideway so that the horizontal forces acting on the wheelset substantially transversed to the guideway centerline are substantially resisted by the sum of horizontal vectors of the perpendicular component and in which a line intersecting a first plane perpendicular to the axis of the wheels on one side and a second plane perpendicular to the other wheels intersects above and between the wheels passing through the center of gravity of the vehicle in his advantageous vehicle as taught by Bishop in order to facilitate steering of the bogie during curve negotiation while increasing dynamic stability of the vehicle.

4. Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chollet et al and Bishop as applied to claims 14, and 16 above, and further in view of Hase (EP 945 327 A2).

#### Claims 24-26

Chollet et al and Bishop teach all the limitations of claims 24-26 except for a self-steering vehicle comprising sensing means positioned on a longitudinally disposed reference path which is substantially contiguous with the guideway centerline. The general concept of providing sensing means positioned on a longitudinally disposed

reference path which is substantially contiguous with the guideway centerline is well known in the art as illustrated by Hase which illustrates the use of sensing means (56, 56') positioned on a longitudinally disposed reference path (22) which is substantially contiguous with the guideway centerline of a self-steering vehicle. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Chollet et al and Bishop to include the use of sensing means positioned on a longitudinally disposed reference path which is substantially contiguous with the guideway centerline in his advantageous self-steering vehicle as taught by Hase in order to increase the performance of the self-steering device while simplifying the number of parts.

***Allowable Subject Matter***

5. Claims 30-48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the references of record suggests a vehicle with at least one steerable wheelset adapted to run on a guideway having two primary running faces laterally offset about the centerline of the guideway, the wheelset comprising a pair of wheels, the vehicle comprising sensing means for sensing lateral displacement of the wheelset with respect to a longitudinally disposed reference path or the track, the sensing means producing a signal for a control system operably connected to an actuating means to steer the wheels in response to the sensed lateral displacement, the axes of rotation of the wheels and the primary running faces being inclined downwardly toward the guideway centerline, wherein a secondary running face lies immediately adjacent to, and substantially parallel to, at least one of the primary

running faces in the manner defined in the instant claims 30, 31, and 32. Also, none of the references of record suggests a vehicle with at least one steerable wheelset to run on a primary running faces which are inclined downwardly toward the guideway centerline, wherein a secondary running face lies immediately adjacent to and substantially parallel to each primary running face and the longitudinally disposed reference path is contiguous with the lateral centerline between the respective two secondary running faces in the manner defined in the instant claims 36-38. Moreover, none of the references of record suggests a vehicle with at least one steerable wheelset to run on a primary running faces which are inclined downwardly toward the guideway centerline, the vehicle comprising sensing means for sensing lateral displacement of the wheelset with respect to a longitudinally disposed reference path or the track, the sensing means producing a signal for a control system operably connected to an actuating means to steer the wheels in response to the sensed lateral displacement, wherein the control system calculates a virtual longitudinally disposed reference path which is not necessarily parallel or contiguous with the guideway centerline in the manner defined in the instant claim 48. Therefore, claims 33, 34-35, 39, 40-48, depending therefrom, are considered to be allowable.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 3617

McSparran et al are cited to show related system for automatically controlling an electric vehicle having a guideway with a secondary running face which is perpendicular to a primary running face.

Scheffel, and Anderson are cited to show related vehicle having self-steering wheel.

Halvorson et al are cited to show related vehicle having a sensor for determining the path of the vehicle.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frantz F. Jules whose telephone number is (703) 308-8780. The examiner can normally be reached on Monday-Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph S. Morano can be reached on (703) 308-0230. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7687 for regular communications and (703) 305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

Frantz F. Jules  
Examiner  
Art Unit 3617

FFJ

March 19, 2003

FRANTZ F. JULES  
PATENT EXAMINER

